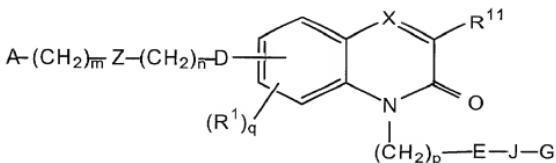


WHAT IS CLAIMED IS:

1. A compound of having the following formula:

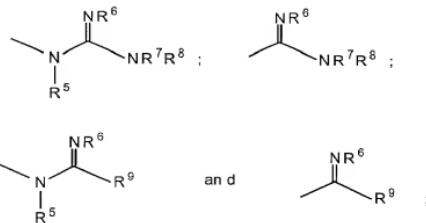


5

wherein:

A is a member selected from the group consisting of: R², -NR³R⁴, -C(=O)NR³R⁴,

10



where R², R³, R⁴, R⁵, R⁶, R⁷, and R⁸ are independently selected from the group consisting of H, -OH, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, C₃₋₈cycloalkyl,

C₆₋₁₂carbocyclic aryl, a five to ten membered heterocyclic ring system containing 1-4

15 heteroatoms selected from the group consisting of N, O and S; and

C₁₋₆alkylheterocyclic ring system having in the ring system 5 to 10 atoms with 1 to 4 of such atoms being selected from the group consisting of N, O and S; where R⁶ taken with either of R⁷ and R⁸, and/or R⁷ taken with R⁸, can each form a 5 to 6 membered heterocyclic ring containing from 1 to 4 atoms selected from the group consisting of

N, O and S;

m is an integer from 0-3;

- Z is a member selected from the group consisting of a direct link, C₁₋₈alkyl,
C₃₋₈cycloalkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, C₁₋₈carbocyclic aryl, or a five to ten membered
5 heterocyclic ring system containing 1-4 heteroatoms selected from the group
consisting of N, O and S;

n is an integer from 0-3;

- D is a member selected from the group consisting of a direct link, -CH₂-,-O-,
10 -N(R²)-, -C(=O)-, -S-, -SO₂-, -SO₂-N(R²)-, -N(R²)-SO₂-,-OC(=O)-, -C(=O)O-,
-C(=O)-N(R²)- and -N(R²)-C(=O)-;

- R¹ is a member selected from the group consisting of H, C₁₋₈alkyl, C₂₋₈alkenyl,
C₂₋₈alkynyl, C₃₋₈cycloalkyl, halogen, polyhaloalkyl, C₀₋₈alkyl-C(=O)OH,
C₀₋₈alkyl-C(=O)O-C₁₋₈alkyl, -CN, -NO₂, C₀₋₈alkyl-OH, C₀₋₈alkyl-SH, -C(=O)NR²R³,
15 -O-R² and -O-C(=O)R², an unsubstituted amino group, a mono- or di-substituted
amino group, wherein the substituted amino groups are independently substituted by
at least one member selected from the group consisting of H, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl,
C₃₋₈cycloalkyl, polyhaloalkyl, -SO₂R², C₀₋₈alkyl-C(=O)OH and
C₀₋₈alkyl-C(=O)O-C₁₋₈alkyl, where R² and R³ is as described above;

20

q is an integer from 0-3;

X is N or -CR¹²;

- R¹¹ and R¹² are independently a member selected from the group consisting of
25 H, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, C₃₋₈cycloalkyl, C₆₋₁₂carbocyclic aryl,
C₁₋₆alkylaryl, C₁₋₆alkyl-C₃₋₈cycloalkyl, -O-R², -O-C(=O)R², -C₁₋₈alkyl-O-R¹⁰,
-C₁₋₈alkyl-O-C(=O)R¹⁰, -C₁₋₈alkyl-C(=O)OR¹⁰, -C₁₋₈alkyl-O-C(=O)OR¹⁰,
-C₁₋₈alkyl-C(=O)NR¹⁰R¹⁰, -C₁₋₈alkyl-NR¹⁰R¹⁰, -C₁₋₈alkyl-NR¹⁰C(=O)R¹⁰, -SR¹⁰, where
R² is as described above and R¹⁰ is a member selected from the group consisting of H,

C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, and wherein when two R¹⁰ groups are present they may be taken together to form a saturated or unsaturated ring with the atom to which they are both attached;

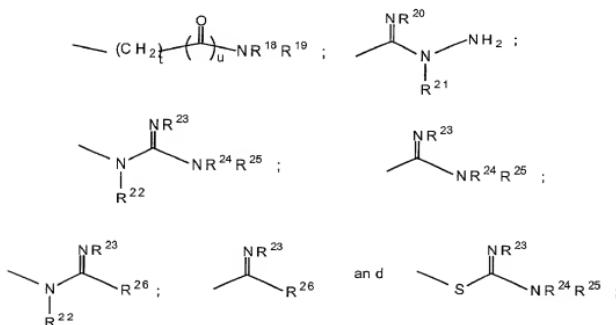
5 p is an integer from 0-3;

E is a member selected from the group consisting of a direct link, -O-, -N(R¹¹)-, where R¹¹ is as set forth above, phenylene, a bivalent 5 to 12 member heteroaryl group containing 1 to 4 heteroatoms selected from the group consisting of N, O and S, and a five to ten membered non-aromatic bivalent heterocyclic ring system containing 1-4 heteroatoms selected from the group consisting of N, O and S, wherein said heteroaryl and said non-aromatic heterocyclic ring structure may be independently substituted by from 0 to 5 R¹⁴ groups;

J is a member selected from the group consisting of a direct link, a bivalent C₃₋₈cycloalkyl group, phenylene, a 5 to 12 member bivalent heteroaryl group containing 1 to 4 heteroatoms selected from the group consisting of N, O and S, and a five to ten membered non-aromatic bivalent heterocyclic ring system containing 1-4 heteroatoms selected from the group consisting of N, O and S wherein said heteroaryl and said non-aromatic heterocyclic ring structure may be independently substituted by from 0 to 5 R¹⁴ groups;

20 each R¹⁴ group is a member selected from the group consisting of H, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, C₃₋₈cycloalkyl, halogen, polyhaloalkyl, C₀₋₈alkyl-C(=O)OH, C₀₋₈alkyl-C(=O)O-C₁₋₈alkyl, -CN, -NO₂, C₀₋₈alkyl-OH, C₀₋₈alkyl-SH, -O-R² and -O-C(=O)R², an unsubstituted amino group, a mono- or di-substituted amino group, wherein the substituted amino groups are independently substituted by at least one 25 member selected from the group consisting of H, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, C₃₋₈cycloalkyl, polyhaloalkyl, C₀₋₈alkyl-C(=O)OH and C₀₋₈alkyl-C(=O)O-C₁₋₈alkyl;

G is a member selected from the group consisting of: H; -CN; -OR¹⁷;



wherein

t is an integer from 0 to 6,

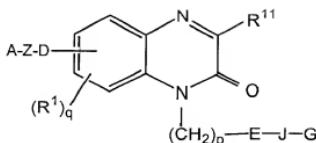
- u is the integer 0 or 1, and R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²², R²³, R²⁴, R²⁵ and R²⁶ are
- 5 independently selected from the group consisting of H, -OH, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, C₃₋₈cycloalkyl, C₆₋₁₂carbocyclic aryl, a five to ten membered heterocyclic ring system containing 1-4 heteroatoms selected from the group consisting of N, O and S; and C₁₋₈alkylheterocyclic ring system having in the ring system 5 to 10 atoms with 1 to 4 of such atoms being selected from the group consisting of N, O and S;
 - 10 where R¹⁸ taken with R¹⁹, R²² taken with either of R²⁴ and R²⁵, and R²⁴ taken with R²⁵, can each independently form a 5 to 6 membered heterocyclic ring containing from 1 to 4 atoms selected from the group consisting of N, O and S;

with the proviso that when G is H, -CN, -OR¹⁷, either E or J must contain at least one N atom;

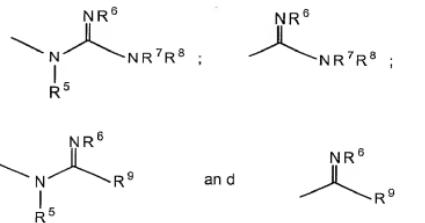
15

and all pharmaceutically acceptable isomers, salts, hydrates, solvates and prodrug derivatives thereof.

2. A compound of formula II:



A is a member selected from the group consisting of: R^2 , $-\text{NR}^3\text{R}^4$,
5 $-\text{C}(=\text{O})\text{NR}^3\text{R}^4$,



where R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 , and R^9 are independently selected from the group
10 consisting of H, -OH, C_{1-8} alkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, C_{3-8} cycloalkyl,
 C_{6-12} carbocyclic aryl, a five to ten membered heterocyclic ring system containing 1-4
heteroatoms selected from the group consisting of N, O and S; and
C₁₋₆alkylheterocyclic ring system having in the ring system 5 to 10 atoms with 1 to 4
of such atoms being selected from the group consisting of N, O and S; where r^6 taken
15 with either of R^7 and R^8 , and/or R^7 taken with R^8 , can each form a 5 to 6 membered
heterocyclic ring containing from 1 to 4 atoms selected from the group consisting of
N, O and S;

Z is a member selected from the group consisting of a direct link, C_{1-8} alkyl,

C₃₋₈cycloalkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, C₁₋₈carbocyclic aryl, or a five to ten membered heterocyclic ring system containing 1-4 heteroatoms selected from the group consisting of N, O and S;

- D is a member selected from the group consisting of a direct link, -CH₂-, -O-,
5 -N(R²)-, -C(=O)-, -S-, -SO₂-, -SO₂N(R²)-, -N(R²)SO₂-, -OC(=O)-, -C(=O)O-,
-C(=O)-N(R²)- and -N(R²)C(=O)-;

- R¹ is a member selected from the group consisting of H, C₁₋₈alkyl, C₂₋₈alkenyl,
C₃₋₈cycloalkyl, halogen, polyhaloalkyl, C₀₋₈alkyl-C(=O)OH,
10 C₀₋₈alkyl-C(=O)O-C₁₋₈alkyl, -CN, -NO₂, C₀₋₈alkyl-OH, C₀₋₈alkyl-SH, -C(=O)NR²R³,
-O-R² and -O-C(=O)R², an unsubstituted amino group, a mono- or di-substituted
amino group, wherein the substituted amino groups are independently substituted by
at least one member selected from the group consisting of H, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈
alkynyl, C₃₋₈cycloalkyl, polyhaloalkyl, -SO₂R², C₀₋₈alkyl-C(=O)OH and
C₀₋₈alkyl-C(=O)O-C₁₋₈alkyl, where R² and R³ is as described above;

15

q is an integer from 0-3;

- R¹¹ is independently a member selected from the group consisting of H,
C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, C₃₋₈cycloalkyl, C₆₋₁₂carbocyclic aryl, C₁₋₈alkylaryl,
C₁₋₆alkyl-C₃₋₈cycloalkyl, -O-R², -O-C(=O)R², -C₁₋₈alkyl-O-R¹⁰, -C₁₋₈alkyl-O-C(=O)R¹⁰,
20 -C₁₋₈alkyl-C(=O)OR¹⁰, -C₁₋₈alkyl-O-C(=O)OR¹⁰, -C₁₋₈alkyl-C(=O)NR¹⁰R¹⁰,
-C₁₋₈alkyl-NR¹⁰R¹⁰, -C₁₋₈alkyl-NR¹⁰C(=O)R¹⁰, -SR¹⁰, where R² is as described above
and R¹⁰ is a member selected from the group consisting of H, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈
alkynyl, and wherein when two R¹⁰ groups are present they may be taken together to
form a saturated or unsaturated ring with the atom to which they are both attached;

25

p is an integer from 0-2;

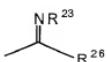
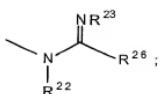
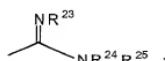
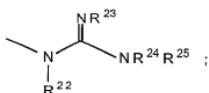
- E is a member selected from the group consisting of a direct link, -O-,
-N(-R¹¹)-, where R¹¹ is as set forth above, phenylene, a bivalent 5 to 12 member
heteroaryl group containing 1 to 4 heteroatoms selected from the group consisting of

N, O and S, and a five to ten membered non-aromatic bivalent heterocyclic ring system containing 1-4 heteroatoms selected from the group consisting of N, O and S, wherein said heteroaryl and said non-aromatic heterocyclic ring structure may be independently substituted by from 0 to 5 R¹⁴ groups;

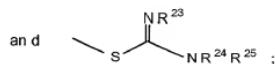
- 5 J is a member selected from the group consisting of a direct link, a bivalent C₃₋₈cycloalkyl group, phenylene, a 5 to 12 member bivalent heteroaryl group containing 1 to 4 heteroatoms selected from the group consisting of N, O and S, and a five to ten membered non-aromatic bivalent heterocyclic ring system containing 1-4 heteroatoms selected from the group consisting of N, O and S wherein said heteroaryl 10 and said non-aromatic heterocyclic ring structure may be independently substituted by from 0 to 5 R¹⁴ groups;

- each R¹⁴ group is a member selected from the group consisting of H, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, C₃₋₈cycloalkyl, halogen, polyhaloalkyl, C₀₋₈alkyl-C(=O)OH, C₀₋₈alkyl-C(=O)O-C₁₋₈alkyl, -CN, -NO₂, C₀₋₈alkyl-OH, C₀₋₈alkyl-SH, -O-R² and 15 -O-C(=O)R², an unsubstituted amino group, a mono- or di-substituted amino group, wherein the substituted amino groups are independently substituted by at least one member selected from the group consisting of H, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, C₃₋₈cycloalkyl, polyhaloalkyl, C₀₋₈alkyl-C(=O)OH and C₀₋₈alkyl-C(=O)O-C₁₋₈alkyl;

G is a member selected from the group consisting of: H; -CN; -OR¹⁷;



and



wherein

t is an integer from 0 to 6,

- u is the integer 0 or 1, and R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²², R²³, R²⁴, R²⁵ and R²⁶ are independently selected from the group consisting of H, -OH, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, C₃₋₈cycloalkyl, C₆₋₁₂carbocyclic aryl, a five to ten membered heterocyclic ring system containing 1-4 heteroatoms selected from the group consisting of N, O and S; and C₁₋₆alkylheterocyclic ring system having in the ring system 5 to 10 atoms with 1 to 4 of such atoms being selected from the group consisting of N, O and S; where r¹⁸ taken with R¹⁹, R²² taken with either of R²⁴ and R²⁵, and R²⁴ taken with R²⁵, can each independently form a 5 to 6 membered heterocyclic ring containing from 1 to 4 atoms selected from the group consisting of N, O and S;

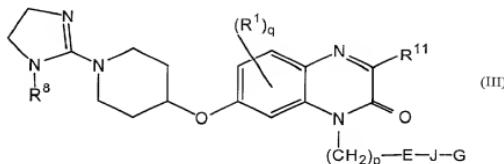
with the proviso that when G is H, -CN, -OR¹⁷, either E or J must contain at least one N atom;

- and all pharmaceutically acceptable isomers, salts, hydrates, solvates and prodrug derivatives thereof.

3. A compound of claim 2, wherein D is a member selected from the group consisting of: -O-, -NR², -C(=O)-, -S-, -SO₂-, -SO₂-NR², -NR²-SO₂, -OC(=O)-, -C(=O)NR², and -NR²-C(=O)-.

4. A compound of claim 3, wherein D is a member selected from the group consisting of: -O-, -NR², -C(=O)-, -S-, and -SO₂-.

5. A compound of formula III:



5 wherein:

R⁸ is selected from the group consisting of H, -OH, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, C₃₋₈cycloalkyl, C₆₋₁₂carbocyclic aryl, a five to ten membered heterocyclic ring system containing 1-4 heteroatoms selected from the group consisting of N, O and S; and C₁₋₆alkylheterocyclic ring system having in the ring system 5 to 10 atoms with 1 to 4 of such atoms being selected from the group consisting of N, O and S;

10 R¹ is a member selected from the group consisting of H, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, C₃₋₄cycloalkyl, halogen, polyhaloalkyl, C₀₋₈alkyl-C(=O)OH, C₀₋₈alkyl-C(=O)O-C₁₋₈alkyl, -CN, -NO₂, C₀₋₈alkyl-OH, C₀₋₈alkyl-SH, -C(=O)NR²R³, -O-R² and -O-C(=O)R², an unsubstituted amino group, a mono- or di-substituted 15 amino group, wherein the substituted amino groups are independently substituted by at least one member selected from the group consisting of H, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, C₃₋₈cycloalkyl, polyhaloalkyl, -SO₂R², C₀₋₈alkyl-C(=O)OH and C₀₋₈alkyl-C(=O)O-C₁₋₈alkyl, where R² and R³ is as described above;

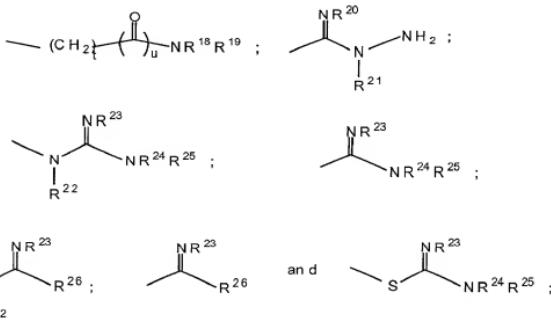
20 R² is selected from the group consisting of H, -OH, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, C₃₋₈cycloalkyl, C₆₋₁₂carbocyclic aryl, a five to ten membered heterocyclic ring system containing 1-4 heteroatoms selected from the group consisting of N, O and S; and C₁₋₆alkylheterocyclic ring system having in the ring system 5 to 10 atoms with 1 to 4 of such atoms being selected from the group consisting of N, O and S;

25 q is 0-3;

- R¹¹ is a member selected from the group consisting of H, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, C₃₋₈cycloalkyl, C₆₋₁₂carbocyclic aryl, C₁₋₆alkylaryl,
C₁₋₆alkyl-C₃₋₈cycloalkyl, -O-R², -O-C(=O)R², -C₁₋₈alkyl-O-R¹⁰, -C₁₋₈alkyl-O-C(=O)R¹⁰,
-C₁₋₈alkyl-C(=O)OR¹⁰, -C₁₋₈alkyl-O-C(=O)OR¹⁰, -C₁₋₈alkyl-C(=O)NR¹⁰R¹⁰,
5 -C₁₋₈alkyl-NR¹⁰R¹⁰, -C₁₋₈alkyl-NR¹⁰C(=O)R¹⁰, -SR¹⁰, where R² is as described above
and R¹⁰ is a member selected from the group consisting of H, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, and wherein when two R¹⁰ groups are present they may be taken together to
form a saturated or unsaturated ring with the atom to which they are both attached;
- 10 p is an integer from 0-2;
- E is a member selected from the group consisting of a direct link, -O-,
-N(-R¹¹)-, where R¹¹ is as set forth above, phenylene, a bivalent 5 to 12 member
heteroaryl group containing 1 to 4 heteroatoms selected from the group consisting of
N, O and S, and a five to ten membered non-aromatic bivalent heterocyclic ring
15 system containing 1-4 heteroatoms selected from the group consisting of N, O and S,
wherein said heteroaryl and said non-aromatic heterocyclic ring structure may be
independently substituted by from 0 to 5 R¹⁴ groups;
- J is a member selected from the group consisting of a direct link, a bivalent
C₃₋₈cycloalkyl group, phenylene, a 5 to 12 member bivalent heteroaryl group
20 containing 1 to 4 heteroatoms selected from the group consisting of N, O and S, and a
five to ten membered non-aromatic bivalent heterocyclic ring system containing 1-4
heteroatoms selected from the group consisting of N, O and S wherein said heteroaryl
and said non-aromatic heterocyclic ring structure may be independently substituted by
from 0 to 5 R¹⁴ groups;
- 25 each R¹⁴ group is a member selected from the group consisting of H, C₁₋₈alkyl,
C₂₋₈alkenyl, C₂₋₈alkynyl, C₃₋₈cycloalkyl, halogen, polyhaloalkyl, C₀₋₈alkyl-C(=O)OH,
C₀₋₈alkyl-C(=O)O-C₁₋₈alkyl, -CN, -NO₂, C₀₋₈alkyl-OH, C₀₋₈alkyl-SH, -O-R² and
-O-C(=O)R², an unsubstituted amino group, a mono- or di-substituted amino group,
wherein the substituted amino groups are independently substituted by at least one
30 member selected from the group consisting of H, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl,

C_{3-8} cycloalkyl, polyhaloalkyl, C_{0-8} alkyl-C(=O)OH and C_{0-8} alkyl-C(=O)O-C₁₋₈alkyl;

G is a member selected from the group consisting of: H; -CN; -OR¹⁷;



wherein

t is an integer from 0 to 6,

- 5 u is the integer 0 or 1, and R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²², R²³, R²⁴, R²⁵ and R²⁶ are independently selected from the group consisting of H, -OH, C_{1-8} alkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, C_{3-8} cycloalkyl, C_{6-12} carbocyclic aryl, a five to ten membered heterocyclic ring system containing 1-4 heteroatoms selected from the group consisting of N, O and S; and C_{1-6} alkylheterocyclic ring system having in the ring system 5 to 10 atoms with 1 to 4 of such atoms being selected from the group consisting of N, O and S; where r¹⁸ taken with R¹⁹, R²² taken with either of R²⁴ and R²⁵, and R²⁴ taken with R²⁵, can each independently form a 5 to 6 membered heterocyclic ring containing from 1 to 4 atoms selected from the group consisting of N, O and S;
- 10 with the proviso that when G is H, -CN, -OR¹⁷, either E or J must contain at least one N atom;

15 and all pharmaceutically acceptable isomers, salts, hydrates, solvates and prodrug derivatives thereof.

6. A compound of claim 5, wherein R¹ and R⁸ are independently a lower alkyl group and R¹¹ is hydrogen or is a C₁ to C₈ alkyl group.

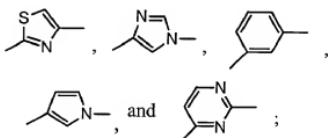
7. A compound of claim 5, wherein q is zero and R⁸ is lower alkyl group.

8. A compound of claim 5, wherein:

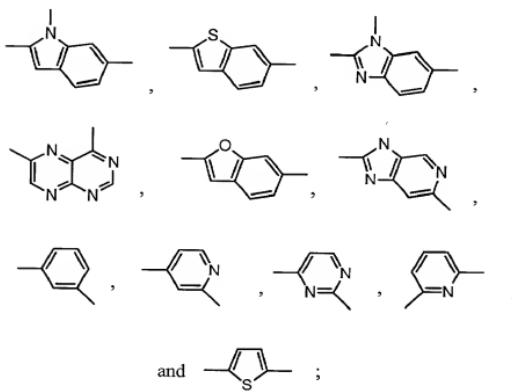
5 R⁸ is a methyl group;

p is an integer from 1-2;

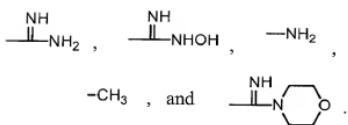
E is selected from the group consisting of: a direct link,



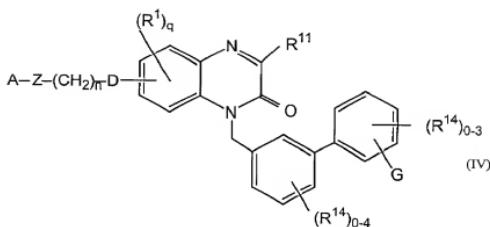
J is selected from the group consisting of:



and G is selected from the group consisting of:

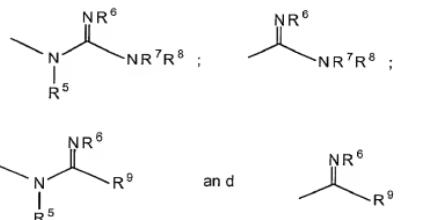


9. A compound of formula IV:



wherein:

- 5 A is a member selected from the group consisting of: R^2 , $-\text{NR}^3\text{R}^4$,
 $-\text{C}(=\text{O})\text{NR}^3\text{R}^4$,



- 10 where R^2 , R^4 , R^5 , R^6 , R^7 , R^8 , and R^9 are independently selected from the group consisting of H, -OH, C_{1-8} alkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, C_{3-8} cycloalkyl,

C₆₋₁₂carbocyclic aryl, a five to ten membered heterocyclic ring system containing 1-4 heteroatoms selected from the group consisting of N, O and S; and
C₁₋₆alkylheterocyclic ring system having in the ring system 5 to 10 atoms with 1 to 4 of such atoms being selected from the group consisting of N, O and S; where r⁶ taken 5 with either of R⁷ and R⁸, and/or R⁷ taken with R⁸, can each form a 5 to 6 membered heterocyclic ring containing from 1 to 4 atoms selected from the group consisting of N, O and S;

Z is a member selected from the group consisting of a direct link, C₁₋₈alkyl, C₃₋₈cycloalkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, C₁₋₈carbocyclic aryl, or a five to ten membered 10 heterocyclic ring system containing 1-4 heteroatoms selected from the group consisting of N, O and S;

n is 0-3;

D is a member selected from the group consisting of: -CH₂₋, -O-, -N R², 15 -C(=O)-, -S-, -SO₂₋, -SO₂-NR², -NR²-SO₂, -OC(=O)-, -C(=O)NR², and -NR²-C(=O)-;

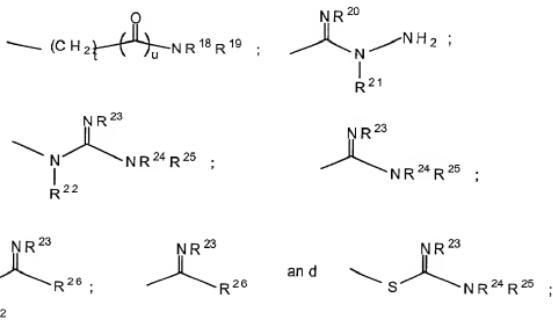
R¹ and R¹⁴ are independently a member selected from the group consisting of H, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, C₃₋₈cycloalkyl, halogen, polyhaloalkyl, 20 C₀₋₈alkyl-C(=O)OH, C₀₋₈alkyl-C(=O)O-C₁₋₈alkyl, -CN, -NO₂, C₀₋₈alkyl-OH, C₀₋₈alkyl-SH, -O-R² and -O-C(=O)R², an unsubstituted amino group, a mono- or di-substituted amino group, wherein the substituted amino groups are independently substituted by at least one member selected from the group consisting of H, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, C₃₋₈cycloalkyl, polyhaloalkyl, C₀₋₈alkyl-C(=O)OH and C₀₋₈alkyl-C(=O)O-C₁₋₈alkyl;

25 q is 0-3;

R¹¹ is a member selected from the group consisting of H, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, C₃₋₈cycloalkyl, C₆₋₁₂carbocyclic aryl, C₁₋₆alkylaryl, 30 C₁₋₆alkyl-C₃₋₈cycloalkyl, -O-R², -O-C(=O)R², -C₁₋₈alkyl-O-R¹⁰, -C₁₋₈alkyl-O-C(=O)R¹⁰, -C₁₋₈alkyl-C(=O)OR¹⁰, -C₁₋₈alkyl-O-C(=O)OR¹⁰, -C₁₋₈alkyl-C(=O)NR¹⁰R¹⁰,

$-C_{1-8}alkyl-NR^{10}R^{10}$, $-C_{1-8}alkyl-NR^{10}C(=O)R^{10}$, $-SR^{10}$, where R^2 is as described above and R^{10} is a member selected from the group consisting of H, $C_{1-8}alkyl$, $C_{2-8}alkenyl$, $C_{2-8}alkynyl$, and wherein when two R^{10} groups are present they may be taken together to form a saturated or unsaturated ring with the atom to which they are both attached;

- 5 G is a member selected from the group consisting of: H; -CN; -OR¹⁷;



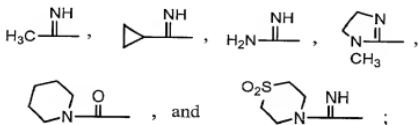
wherein

t is an integer from 0 to 6,

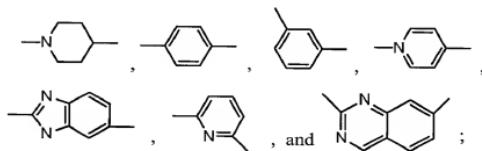
- u is the integer 0 or 1, and R^{17} , R^{18} , R^{19} , R^{20} , R^{21} , R^{22} , R^{23} , R^{24} , R^{25} and R^{26} are independently selected from the group consisting of H, -OH, $C_{1-8}alkyl$, $C_{2-8}alkenyl$, $C_{2-8}alkynyl$, $C_{3-8}cycloalkyl$, $C_{6-12}carbocyclic aryl$, a five to ten membered heterocyclic ring system containing 1-4 heteroatoms selected from the group consisting of N, O and S; and $C_{1-6}alkylheterocyclic ring system$ having in the ring system 5 to 10 atoms with 1 to 4 of such atoms being selected from the group consisting of N, O and S; where R^{18} taken with R^{19} , R^{22} taken with either of R^{24} and R^{25} , and R^{24} taken with R^{25} ,
- 10 can each independently form a 5 to 6 membered heterocyclic ring containing from 1 to 4 atoms selected from the group consisting of N, O and S;
- 15 can each independently form a 5 to 6 membered heterocyclic ring containing from 1 to 4 atoms selected from the group consisting of N, O and S;
- with the proviso that when G is H, -CN, -OR¹⁷, either E or J must contain at least one N atom;

and all pharmaceutically acceptable isomers, salts, hydrates, solvates and prodrug derivatives thereof.

10. A compound of claim 9, wherein R¹, R⁸, R¹¹ and R¹⁴ are independently selected from the group consisting of hydrogen, methyl and ethyl; A is selected from the group consisting of: -H, -CH₃, -NH₂, -C(O)N(CH₃)₂,



Z is selected from the group consisting of:

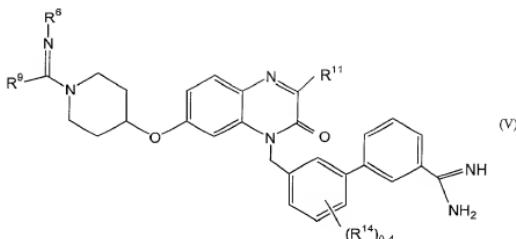


10

n is an integer from 0-2; and

D is selected from the group consisting of: -O-, -N(CH₃)-, and -CH₂-.

11. A compound of formula V:



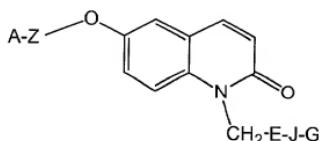
wherein:

- 5 R^2 , R^6 , and R^9 are independently selected from the group consisting of H, -OH, C_{1-8} alkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, C_{3-8} cycloalkyl, C_{6-12} carbocyclic aryl, a five to ten membered heterocyclic ring system containing 1-4 heteroatoms selected from the group consisting of N, O and S; and C_{1-6} alkylheterocyclic ring system having in the ring system 5 to 10 atoms with 1 to 4 of such atoms being selected from the group consisting of N, O and S;
- 10 R^{11} is independently a member selected from the group consisting of H, C_{1-8} alkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, C_{3-8} cycloalkyl, C_{6-12} carbocyclic aryl, C_{1-6} alkylaryl, C_{1-6} alkyl- C_{3-8} cycloalkyl, $-O-R^2$, $-O-C(=O)R^2$, $-C_{1-8}$ alkyl- $O-R^{10}$, $-C_{1-8}$ alkyl- $O-C(=O)R^{10}$, $-C_{1-8}$ alkyl- $C(=O)OR^{10}$, $-C_{1-8}$ alkyl- $O-C(=O)OR^{10}$, $-C_{1-8}$ alkyl- $C(=O)NR^{10}R^{10}$,
- 15 $-C_{1-8}$ alkyl- $NR^{10}R^{10}$, $-C_{1-8}$ alkyl- $NR^{10}C(=O)R^{10}$, $-SR^{10}$, where R^2 is as described above and R^{10} is a member selected from the group consisting of H, C_{1-8} alkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, and wherein when two R^{10} groups are present they may be taken together to form a saturated or unsaturated ring with the atom to which they are both attached;
- 20 each R^{14} group is a member selected from the group consisting of H, C_{1-8} alkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, C_{3-8} cycloalkyl, halogen, polyhaloalkyl, C_{0-8} alkyl- $C(=O)OH$, C_{0-8} alkyl- $C(=O)O-C_{1-8}$ alkyl, -CN, $-NO_2$, C_{0-8} alkyl-OH, C_{0-8} alkyl-SH, $-O-R^2$ and $-O-C(=O)R^2$, an unsubstituted amino group, a mono- or di-substituted amino group, wherein the substituted amino groups are independently substituted by at least one

member selected from the group consisting of H, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, C₃₋₈cycloalkyl, polyhaloalkyl, C₀₋₈alkyl-C(=O)OH and C₀₋₈alkyl-C(=O)O-C₁₋₈alkyl;

and all pharmaceutically acceptable isomers, salts, hydrates, solvates and
5 prodrug derivatives thereof.

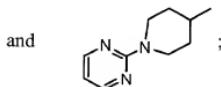
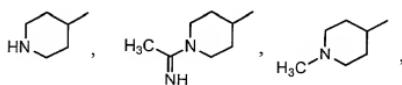
12. A compound having the following structure:



10

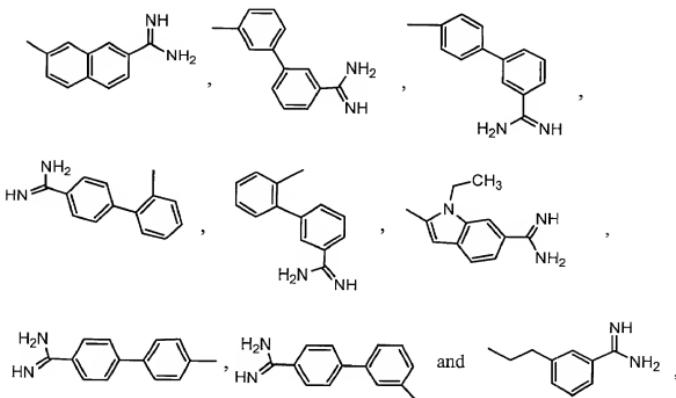
wherein:

A-Z is a member selected from the group consisting of:



15

E-J-G is a member selected from the group consisting of:



and all pharmaceutically acceptable isomers, salts, hydrates, solvates and prodrug derivatives thereof.

5

13. A pharmaceutical composition for preventing or treating a condition in a mammal characterized by undesired thrombosis comprising a pharmaceutically acceptable carrier and a therapeutically effective amount of a compound as in one of claims 1-12.

10

14. A method for preventing or treating a condition in a mammal characterized by undesired thrombosis comprising administering to said mammal a therapeutically effective amount of a compound as in one of claims 1-12.

15

15. The method of claim 14, wherein the condition is selected from the group consisting of:

acute coronary syndrome, myocardial infarction, unstable angina, refractory angina, occlusive coronary thrombus occurring post-thrombolytic therapy or post-

coronary angioplasty, a thrombotically mediated cerebrovascular syndrome, embolic stroke, thrombotic stroke, transient ischemic attacks, venous thrombosis, deep venous thrombosis, pulmonary embolus, coagulopathy, disseminated intravascular coagulation, thrombotic thrombocytopenic purpura, thromboangiitis obliterans,

- 5 thrombotic disease associated with heparin-induced thrombocytopenia, thrombotic complications associated with extracorporeal circulation, thrombotic complications associated with instrumentation such as cardiac or other intravascular catheterization, intra-aortic balloon pump, coronary stent or cardiac valve, and conditions requiring the fitting of prosthetic devices.

10

16. A method for inhibiting the coagulation of biological samples comprising the administration of a compound as in one of claims 1-12.

RECEIVED
U.S. PATENT AND TRADEMARK OFFICE
JULY 10 2008